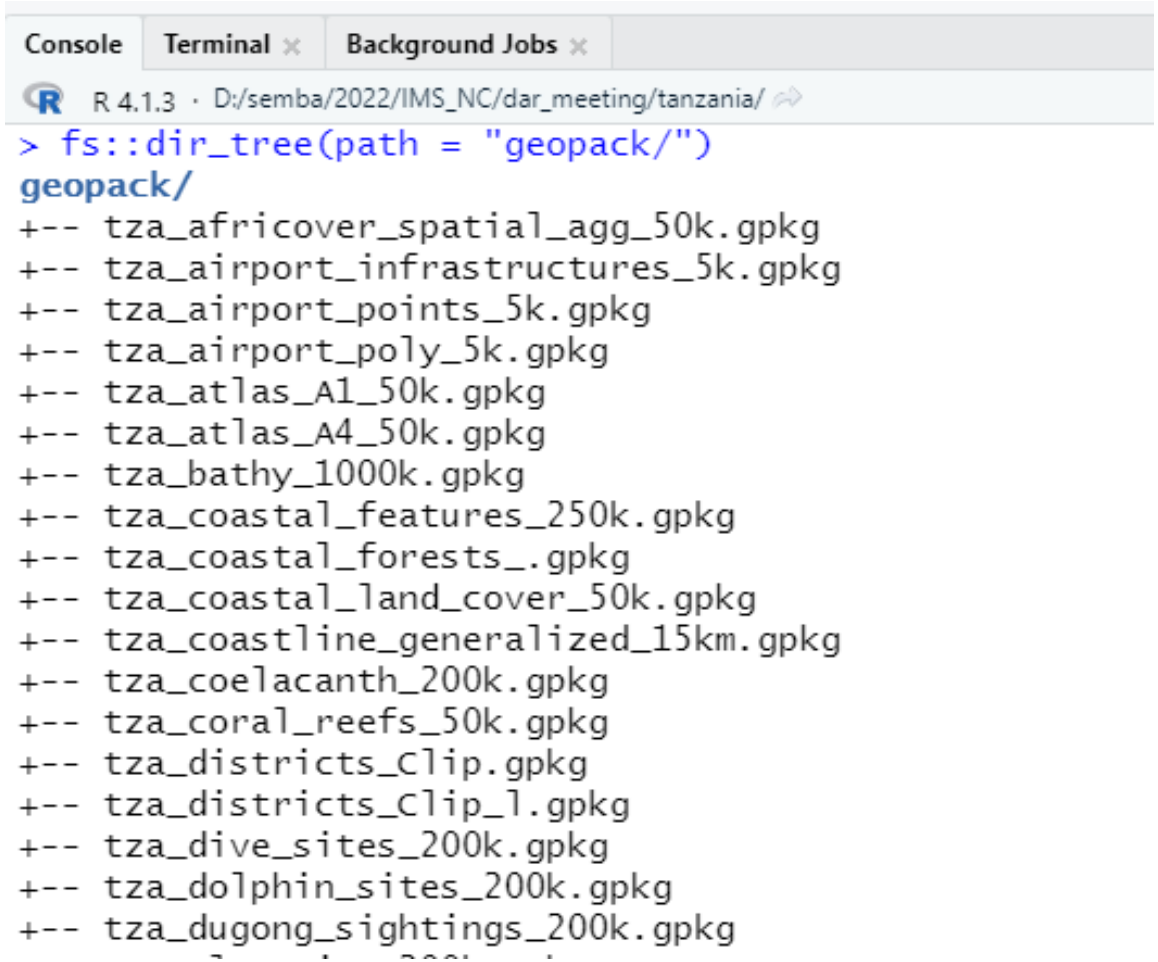
Status of Data and Information Management

Tanzania

Available Dataset

Emerging Technology



Key Authorities/ Institutional Framework

- VPO
- Ministry of Livestock and Fisheries
- Ministry of Transport
- NEMC
- TAFIRI
- IMS
- NBS
- TMA
- Tamisemi (local government authority)
- TASAC etc

Supporting Legal and Policy Framework

- National Environmental Policy (2021)
- National Environmental Master Plan for Strategic Intervention (2022-2032)
- National Integrated Coastal Environment Management Strategy (2003)
- National Biodiversity Strategy and Action Plan (2015)
- Environmental Management Act No. 2 of 2004
- The Marine Parks and Reserves Act No. 2 of 1994
- Fisheries Act 2016
- Zanzibar Blue Economy Policy (2022)
- The Zanzibar Environmental Management Act No. 3 of 2015

Practical Applications in the countries

Packages | Frontend | Backend | Client

```
# frontend ----
ui = navbarPage(
  theme = bslib::bs_theme(version = 5, bootswatch = "journal"),
  tags$img(src = "coat.png", width = "30%", height = "30%"),
  dashboardHeader(title = "", disable = TRUE),
  useShinydashboard(),
  ## link CSS
  tags$head(
    tags$link(rel = "stylesheet", type = "text/css", href = "ocean.css")
  ),
  windowTitle = tags$h3("The Marine Fisheries Hub"),
  ## coastal page
  tabPanel(title = "Coastal",
           fluidRow(
             column(width = 1),
```

Tanzania’s Marine hub

Oceanographic and Weather Outlook of October 10, 2022

CHL 0.2	SST 25	WIND 12	RAIN 180	VISIBILITY 80	WAVE 0.2
CURRENT 0.4	OXYGEN 4.2	AIR 0.2	WATER 0.3	TURBIDITY 1.4	SOIL 80

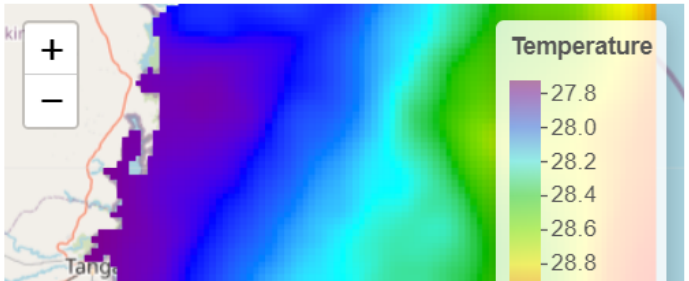
Satellite observations

Months

1 12

1 3 5 7 9 11 12

Sea surface temperature is the temperature of the top millimeter of the ocean's surface. An anomaly



The Pemba Channel

Isosurface Plots

Water samples were collected using Naskin bottles at each cast location along the CTD deployment. This dataset was collected at the same geographical locations as CTD data. Temperature, chlorophyll-a, dissolved oxygen, nitrate, and phosphate levels in the water were measured at three depths: the surface, 15 meters, and 30 meters.

What is an isosurface plot?

An isosurface plot depicts the variation of a single variable across a plane. A isosurface plot is not always a graphic depicting any variable at the ocean's surface, though it can be. Isosurface plots depict any variable as it would appear on a three-dimensional sheet within (or on, or just beneath) the sea, defined by a constant value of another variable. For instance a temperature across the Pemba Channel at 50 meters from the surface.

Why Isosurface?

When it was discovered that mixing in the sea occurs along iso-density surfaces, or sheets of constant density, this type of plot became well-known and widely used. Such plots are now created and interpreted for a wide range of variables, beginning with density surfaces.

Interpreting Isosurface Plots

You can now demonstrate how something varies on longitude and latitde plane. What does nitrate in the Pemba Channel at depth zero tell you? Remember that you can create isosurface plots for Chl and phosphate in the same channel. Creating an isosurface plot similar to the one shown above, but for different depths, may help you understand what is going on in the water.

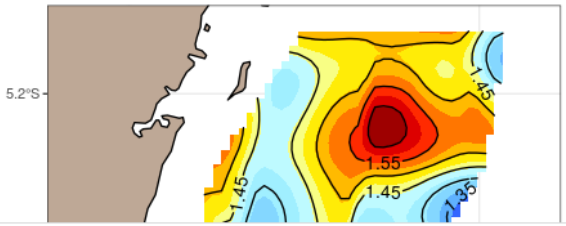
Select a variable to map isosurface

Chl

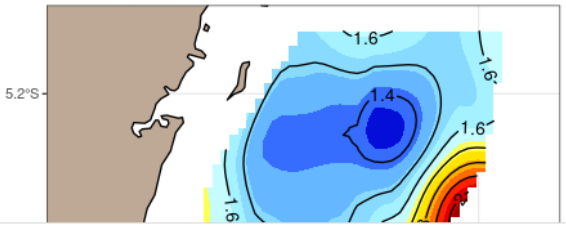
Phosphate

Nitrate

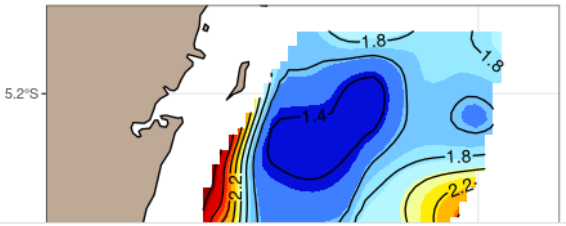
The isofurface of Chl sampled 2 cm from the surface



The isofurface of Chl sampled 15m from the surface



The isofurface of Chl sampled 30m from the surface



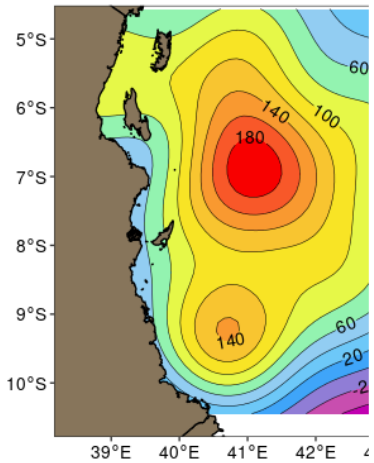
The PFZ Tool

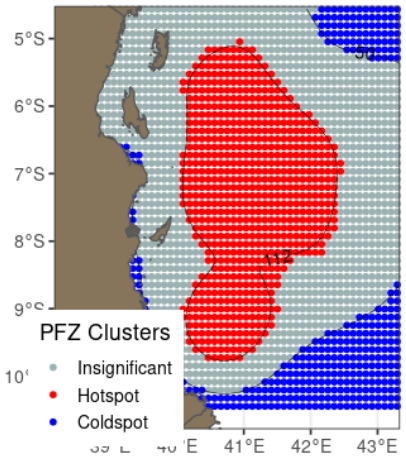
Coastal EEZ Length & Weight **PFZ** Developer

Monthly Variation of PFZ in EEZ

Scientists use Sea Surface Temperature (SST) and Chlorophyll retrieved from satellites to identify areas in the marine environments that are likely potential for fishing and offer high cer-tainty of getting high catches. This apps allows the user to interact with data and assess the areas of high PFZ in the coastal and marine waters of Tanzania.

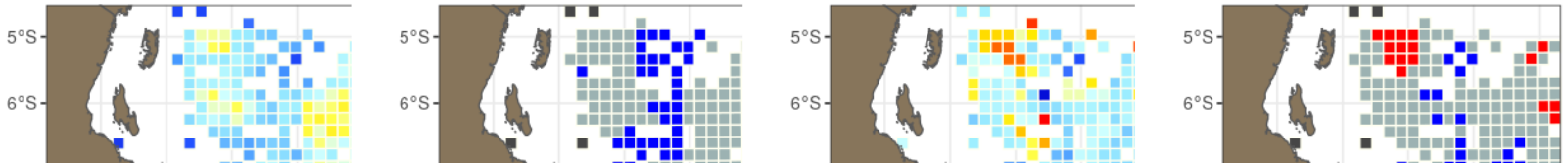
Oct
Nov
Dec
Jan
Feb
Mar





Longline Effort & Catch in the EEZ

The main fishing grounds of tuna in the Exclusive Eonomic Zone of Tanzania vary both in space and time. By simply choosing the month in the selector you will notice a shift of the fishing effort that is justified by the clusters of significantly high and low fishing efforts in the area



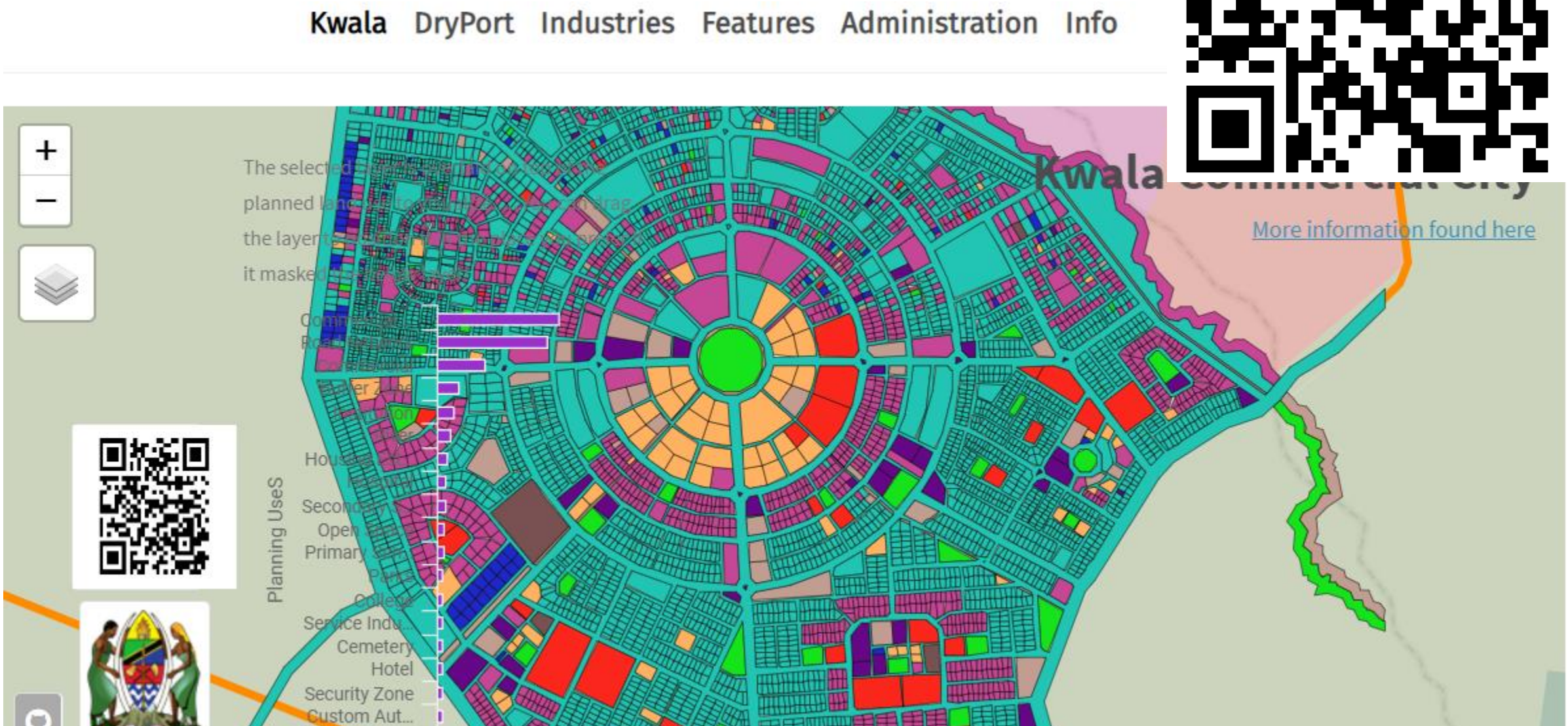
Environmental Master Plan

NEMP Degradation Deforestation Water Wetland Pollu

Biodiversity Climate Dodoma Task Force

What is the Environmental Master Plan?

Kwala Commercial City



Next Steps

- Stakeholders' consultation
- Verify existing data and information
- Seek new datasets

Acknowledgements